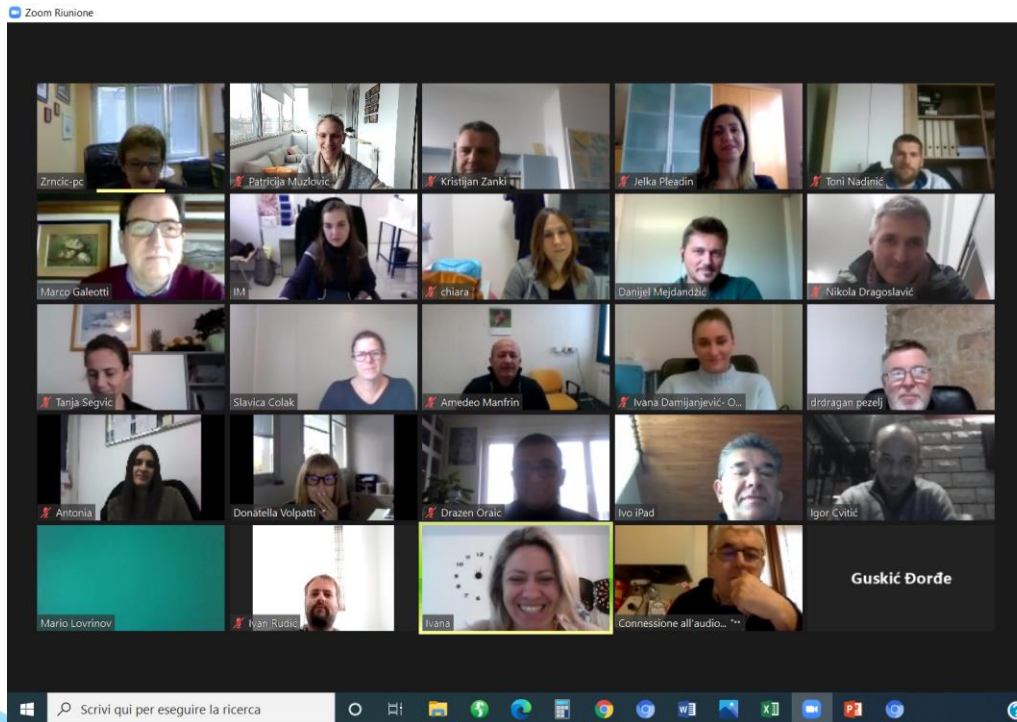


AdriAquaNet

Enhancing Innovation and Sustainability in Adriatic Aquaculture

WP 4.4 Trainings for veterinarians and SMEs

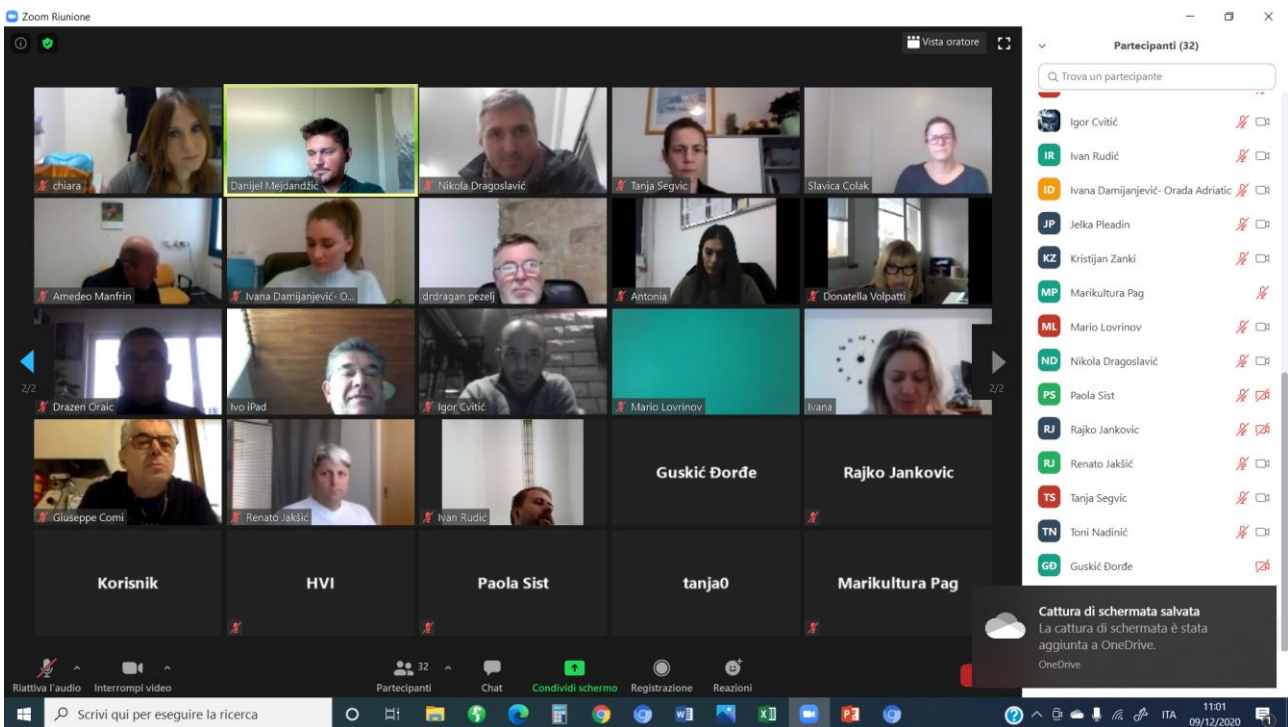
WP4 – Training nr. 2, report, December 9 2020



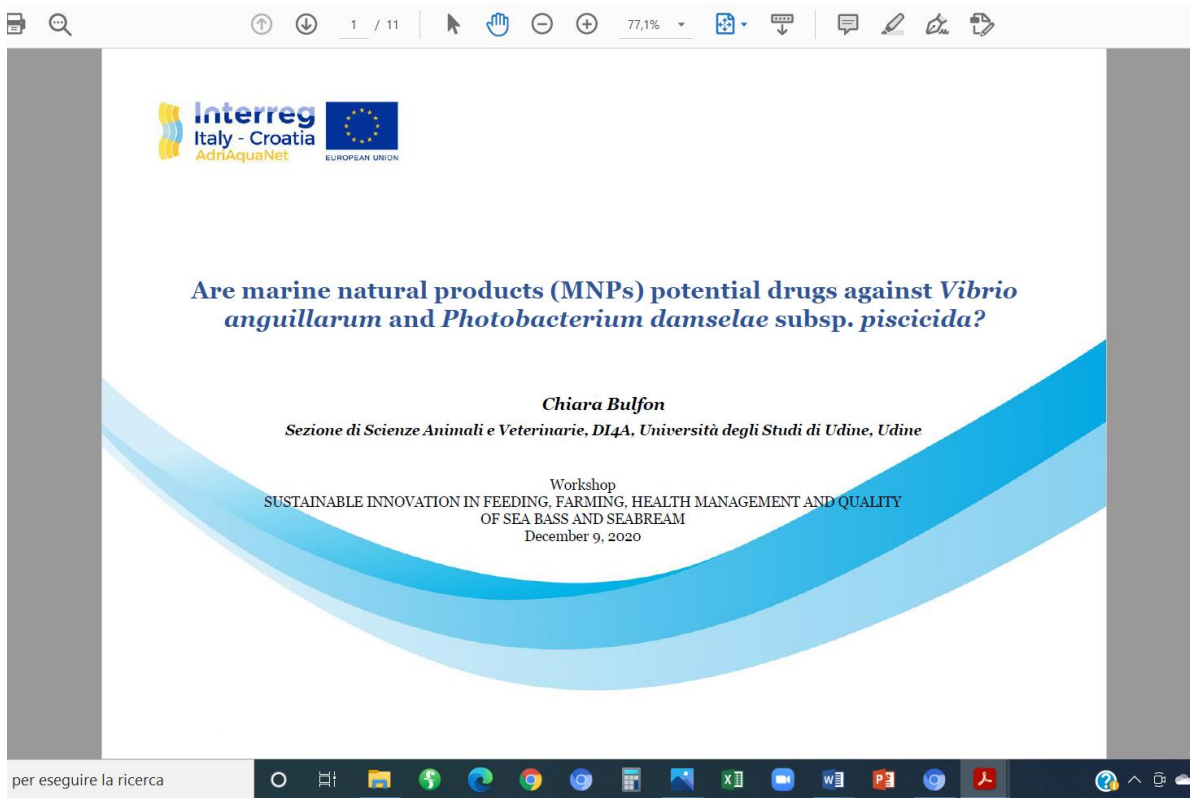
Introduction

The **second training course** entitled **“SUSTAINABLE INNOVATION IN FEEDING, FARMING, HEALTH MANAGEMENT AND QUALITY OF SEA BASS AND SEABREAM”** was held on December 9, 2020 in remote via zoom
<https://us02web.zoom.us/j/81180755685?pwd=MmMvVE5GYVZmQzY1T09DL3lnaDVUdz09> and involved 46 professionals. The focus target were SMEs and fish farmers in Croatia. The agenda of the training, programme, training materials-presentations, attendee list of participants, press release, photos, video link are part of this report.

1



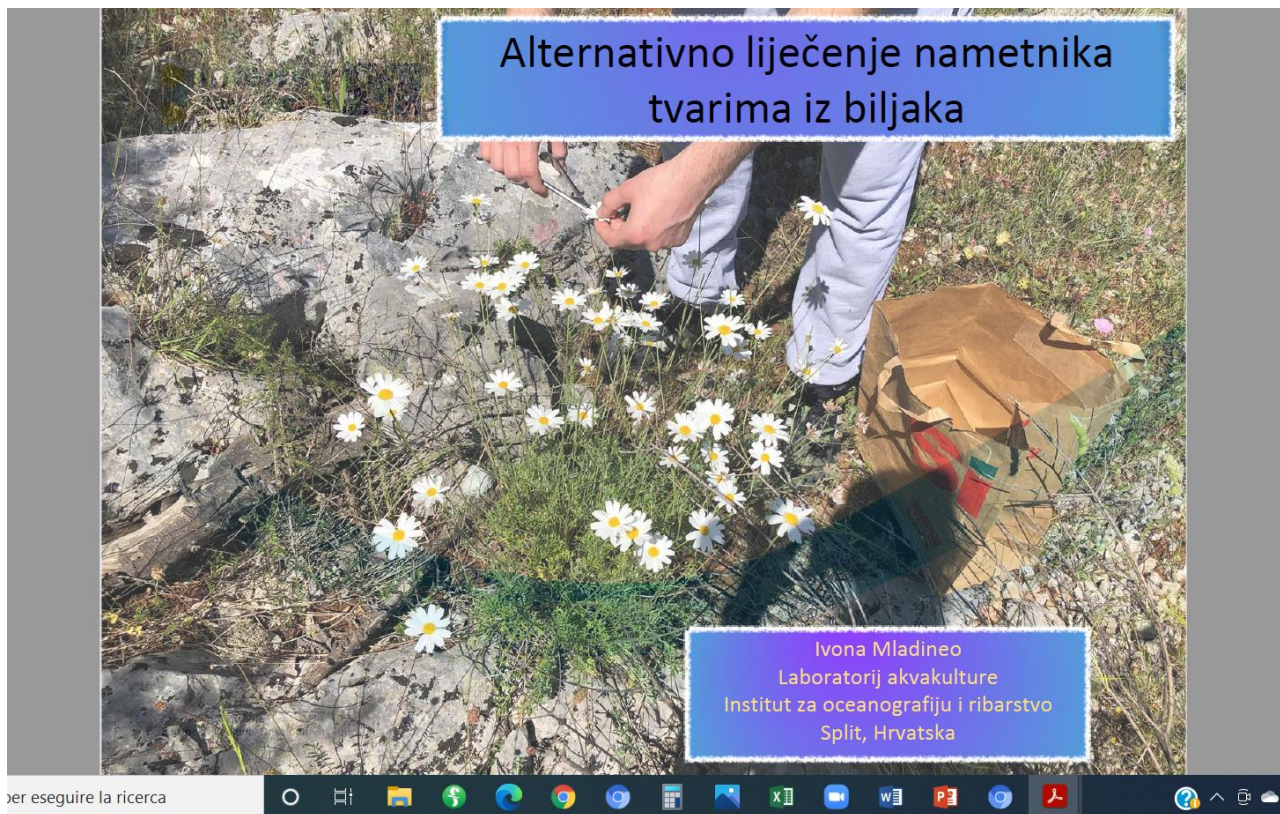
LP (C. Bulfon – UNIUD) held a lesson entitled “*Are marine natural products (MNPs) potential drugs against Vibrio anguillarum and Photobacterium damsela subsp. piscicida?*”



per eseguire la ricerca

2

PP3 (I.Mladineo- IZOR) held a lesson entitled *“Alternativno liječenje nametnika tvarima iz biljaka”* (“*Alternative treatment of pests with plant substances*”).



3

PP1 (D. Oraić and S.Zrnčić –IZV) held a lesson on “*Autologne vaccine protiv V.harveyi i T.Maritimum u brancina: boduća primjena (New autologous vaccine against V.harveyi and T.Maritimum in sea bass: future application)*” during the training course.

BAKTERIJSKE BOLESTI U JADRANSKOJ MARIKULTURI

- Izazovi s kojima se suočava uzgoj brancina i orade u jadranskom području slični su u cijelom Mediteranu
- Veliki dio šteta nanose bakterijske bolesti uzrokovane vrstama *Vibrio anguillarum*, *V. harveyi*, *Photobacterium damsela* subsp. *piscicida* i *Tenacibaculum maritimum*
- Dostupno je nekoliko komercijalnih vakcina protiv *V. anguillarum* te je njihova primjena uz protokole preventivnih mjera na uzgojalištima umanjila probleme; u većini mrijestilišta mlađ brancina se vakcinira, a mnoga uzgajališta revakciniraju ribu
- Dostupne su i vakcine protiv *Photobacterium damsela* subsp. *piscicida* no njihova je učinkovitost u trajanju zaštite nešto kraća
- Međutim, vakcine protiv vrsta bakterija *V. harveyi* i *Tenacibaculum maritimum* za brancina i oradu nisu dostupne

Topics

The following presentations (which are part of this report) regarding WP4 were discussed among the participants and all relators present debated about:

1. Are marine natural products potential drugs against *Vibrio anguillarum* and *Photobacterium damselae* subsp. *Piscicida*?
2. Antibacterial activity of MNPs for use against *vibriosis photobacteriosis* in seabream and sea bass
3. How much is known about the use of MNPs as antibacterial agents against fish pathogens?
4. the most important parasites in aquaculture and the economic loss due to parasites
5. products used in Mediterranean and how the plant herbal extracts work on the parasites
6. Trials with herbal extracts (*Cedrol*, *Curcuma*, *Eucalyptus globolus*, *Garlicin*, *S. chrysophrii*, *Tanacetum cinerariifolium*)
7. Bacterial diseases in the Adriatic Aquaculture
8. Vaccinations

5

Conclusions

During the first set of training the following lessons have been produced and were shared with the participants of the second training cycle:

VIDEO GALEOTTI 1: <https://youtu.be/BFfSMdsQeI8>

VIDEO GALEOTTI 2: <https://youtu.be/XVOugeX711s>

VIDEO VOLPATTI: <https://youtu.be/EHhYFxFxUyKT4>

VIDEO ORAIC and ZRNCIC: <https://youtu.be/5Rc8HtfJynk>

VIDEO BULFON 1: <https://youtu.be/tj8VpEpDX0Q>

VIDEO BULFON 2: <https://youtu.be/tj8VpEpDX0Q>

VIDEO MLADINEO: https://youtu.be/H_4nq292ZUs

The second small scale vaccination trial against *V. harveyi* or *T. maritimum* in sea bass ended. PP1 and PP3 carried out the necessary sampling and challenge tests during the fourth project period. Some serum samples were sent to LP for specific antibody titer evaluation. The vaccination trial against *V. harveyi* or *T. maritimum* in sea bream was performed at PP4 starting from the end of September-beginning of October 2020 (activity 4.1). The field vaccination trial against *V. harveyi* or *T. maritimum* in sea bass at PP8 was completed during the fourth project semester (activity 4.1). LP carried out the *in vitro* cytotoxicity, antibacterial, and immunological assays with MNPs and probiotics during the fourth and fifth project periods (activity 4.2). PP6 and LP collaborated for the identification of one MNP to be tested as a new immunostimulant or antibacterial substance in fish diet, by studying the cost/benefits ratio of its production and potential application in aquaculture. PP3 will complete the *in vitro* analyses on parasitic effects of pyrethrins against *C. oestroides* and *S. chrysophrii*, on immunological properties of bacterial strains isolated from sea bass and sea bream gut, and on biological activities of selected AMPs from *Anisakis* sp. during the next project year. PP3 is drafting a scientific paper concerning the first experimental results to be submitted for publication (activity 4.2). The planned activities concerning fish welfare monitoring will be performed by PP4 and PP2 with LP collaboration during the next project year (activity 4.3).

Next Steps

The following training will be organized in 2021, in Italy in presence or online, according to the sanitary situation.